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Traffic Relief Program

Spring 1987

Expansion

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1.0 Introduction

The Transportation Department is increasing enforcement activities on the Cambridge, Boylston/Essex and Stuart/Kneeland corridors as part of the Traffic Relief Program (TRP). The addition of these three east west corridors is the first significant increase in the program since September 8, 1986 when the Department initiated substantial regulatory changes and intensive enforcement activity on three north south corridors: Arlington, Congress and Tremont.

This document outlines the current addition of of the program. First, the background of TRP is presented to give perspective to the current effort. Next, the goals of the program are described. Finally, specific operational aspects are outlined, including methods for evaluating the effectiveness of this effort.

2.0 Background

The first phase of TRP began on February, 1986 and focussed on strictly enforcing AM and PM peak hour No Stopping and No Parking regulations, while providing traffic officers at key intersections to prevent gridlock. The program was greatly expanded in September. Regulations on many blocks along Arlington, Congress and Tremont were changed to No Stopping between 7 AM and 7 PM. The addition of City owned and operated tow trucks to the private tow trucks that were employed previously in TRP greatly enhanced the City's ability to enforce these regulations.

The result of the intensive enforcement is a significant reduction in congestion along the three corridors. An analysis of before and after conditions that was conducted by TAMS, a transportation consultant retained by the Department, revealed that travel times have been reduced by 30% along these corridors and air quality has been improved significantly. As a result, access to and through the downtown has been more orderly and efficient throughout the day.

On May 4, the Traffic Relief Program (TRP) will be expanded to Cambridge Street. Two additional streets will also be added in the near future: Boylston/Essex from Charles Street to Surface Artery on May 25 and Stuart/Kneeland from Charles to Atlantic on June 22. This part of the program, known as TRP Phase III, will focus on enforcement of 7-9 AM and 4-6 PM peak hour restrictions and other existing regulations along these corridors as a means of improving traffic flow in the downtown.

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3.0 Selection Criteria

A selection process was employed to determine candidate streets for inclusion within the Traffic Relief Program. First, traffic volumes were examined to develop a list of potential corridors. Next, criteria relating to the location of the corridors within the transportation network were used to reduce the candidate streets. In particular, the following was considered:

1. East-west Connections - Under the current program streets are north-south in direction. To insure that the approach is comprehensive, it is desirable to include east west connection.

2. Regional Network - Connection with the Central Artery, Storrow Drive and other regional facilities was an important consideration.

3. Proximity to major attractions/generation points.

4. Systematic expansion of the existing program - priorities were given to streets contiguous to streets in the present program. This adds to better motorist recognition and voluntary compliance, and also enables more efficient deployment of enforcement resources.

As a result of this analysis, the Cambridge, Kneeland/Stuart and Boylston/Essex corridors were incorporated within TRP. Cambridge Street handles approximately 34,000 (two way) vehicles per day; Stuart/Kneeland handles approximately 32,000 (two way) vehicles per day; and, Boylston/Essex handles approximately 10,000 (east bound) vehicles per day. Access ramps for Storrow Drive are located at the Charles Circle end of Cambridge Street. Both Stuart/Kneeland (south) and Boylston/Essex (north) provide connection with the Central Artery. Stuart/Kneeland also provides connection to the Turnpike.

Finally, these streets are well travelled by commuter bus, contains several MBTA bus routes and are frequently used by ambulances to access Mass General (Cambridge Street) and Tufts/New England Medical Center (Stuart/Kneeland). Fire Department Engine Co. 4 and Ladder Co. 24 are located on Cambridge Street.

4.0 Goals

This section outlines 5 goals which are central to this part of the program.

1. Improve traffic flow on East-west Arterials

The streets within the Traffic Relief Program, as currently implemented, provide improved traffic flow in a north-south direction. Expansion of the program to east-west streets insures that the operation becomes more comprehensive in nature. It is anticipated that travel times will be reduced by 10 - 15% along the three new arterials.

2. Improve connections between major generation/attraction points, used as garages, and the regional highway network.

Many off-street parking facilities are located within close proximity of downtown arteries. Commuter traffic entering and exiting these facilities typically use the arteries for access with the regional highway network. Other business and visitor related traffic are offered better opportunities to access the area and find a parking space, either at meters on the street or in off-street facilities near their destinations. Improving travel times on the three corridors will save as much as 200 person hours during the peak hours and significantly reduce auto emissions.

3. Reduce congestion related to commuter traffic in downtown residential areas.

As congestion occurs on arterials which border residential areas, drivers begin to seek alternate routes. In areas such as Chinatown or Beacon Hill, through traffic makes use of streets that are primarily residential in character. Improvements to traffic flow on the arterials will reduce the liklihood that residential areas are impacted by through traffic, by providing a more attractive alternative to the drivers who regularly use these roadways.

4. Provide clear and consistent curbside regulations.

Regulatory changes are necessary to improve street capacity and, therefore, traffic flow. Peak hour regulation will be reviewed and revised as necessary to provide necessary through and turn lanes during the peak hours.

5. Improve signal timing/coordination

As traffic congestion is improved by providing additional physical capacity, existing signal timing programs are able to function as originally intended,and it will be possible to fine-tune these operations to achieve additional efficiency. Traffic will flow more smoothly and opportunities will arise to provide pedestrians with easier crossing at intersections.

5.0 Operation

Three aspects of the expanded TRP are described in this section: regulatory changes, enforcement procedures and before-and-after evaluation.

5.1 Regulatory Changes

No Parking and No Stopping regulations are used to improve traffic flow by increasing street capacity.

In general, the No Stopping regulation prohibits all vehicles from halting at the curb, while the No Parking regulation exempts commercial vehicles, as defined by the City, and passenger vehicles actively receiving or discharging passengers.

In Appendix A, graphics are presented which describe the regulations along the three corridors. The following outlines major points about the regulations to be enforced:

Cambridge Street

* Increased mid-day loading areas near Charles Circle

* Expanded AM and PM peak hour No Stopping regulations adjacent to Charles Circle, with provision for 7 AM to 7 PM No Stopping restriction on south side from West Adams to approximately 275 feet east of West Cedar.

* Expanded AM and PM peak hour restrictions at Government Center with provisions for additional mid-day loading areas.

Boylston/Essex Street

* Daytime loading zone area from Tremont to Kingston on the north side.

* No Stopping Anytime restriction on the south side from Charles Street to Surface Artery, and on the north side from Kingston Street to Surface Artery.

Stuart/Kneeland

* Expanded AM and PM No Stopping regulations throughout the corridor.

* Expanded mid-day loading areas near Park Square.

5.2 Enforcement

Parking enforcement Officers will increase ticketing activity along these corridors in coordination with current efforts along other TRP streets. Boston Police sargents will be dispatched during peak hours to authorize towing of illegally parked vehicles. Motorcycles patrols will circulate to move stopped vehicles where the drivers is still present; parking enforcement officers will employ the same approach.

5.3 Monitoring Effort

Prior to implementation, speed and delay data and additional traffic volume counts were gathered. Test cars followed routes that included these streets, recording travel time and sources of delay and noting the amount of violations. Figure 1 summarizes these results.

After implementation, data will be gathered in the same manner for comparison with the "before" data. Analysis will address the level of compliance, changes in travel times and the impact to air quality.

6.0 Conclusion

It is anticipated that significant travel time reductions will occur along Cambridge, Boylston/Essex and Stuart/Kneeland Streets as a result of this phase of the TRP. Reduction in travel times are likely to be on the order of 10 - 15% during the peak hours. Improved traffic flow will benefit motorists, bus riders, pedestrian and emergency vehicle access.

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Figure ___ "Before" Average Travel Times

Corridors	Distance In Miles	Average 7-9 AM Travel Time	Average 4-6 PM Travel Time
Boylston/Essex (Charles to Surface)	.50	2 min. 46 sec.	4 min. 27 sec.
Cambridge Eastbound (Charles to Court)	.65	2 min. 56 sec.	2 min. 51 sec.
Cambridge Westbound (Court to Charles)	.66	3 min. 52 sec.	4 min. 45 sec.
Stuart/Kneeland (Arlington to Atlantic)	.72	4 min. 27 sec.	5 min. 16 sec.
Kneeland/Stuart	.57	3 min. 15 sec.	4 min. 2 sec.

APPENDIX A

LEGEND:
TOW ZONE NO STOPPING ANYTIME
TOW ZONE NO STOPPING 7AM TO 7PM
NO PARKING 7PM TO 7AM
TOW ZONE NO STOPPING 7AM TO 9:30 PM & 4PM TO 6PM
NO PARKING ANYTIME
TOW ZONE NO STOPPING 7AM TO 9:30AM & 4PM TO 6PM
METERS 9:30AM TO 4PM
TOW ZONE NO STOPPING 4PM TO 6PM -NO PARKING 8AM TO 4PM
TOW ZONE NO PARKING 7AM TO 7PM
EXISTING METERS 8AM TO 6PM
TOW ZONE NO PARKING ANYTIME
TOW ZONE NO PARKING 7AM TO 9:30AM
METERS 9:30AM TO 6PM
TOW ZONE NO PARKING 7AM TO 9:30AM & 4PM TO 6PM
METERS 9:30AM TO 4PM
TOW ZONE NO STOPPING 4PM TO 6PM
METERS 8AM TO 4PM
SPECIAL PARKING REGULATIONS (HP,TAXI, BUS STOP ETC.)
TOW ZONE NO PARKING 4PM TO 6PM
METERS 8AM TO 4PM
TOW ZONE NO STOPPING 7AM TO 9:30AM & 4PM TO 6PM
NO PARKING 9:30 AM TO 4PM
BEDFORD STREET
CHURCH GREEN
KINGSTON-BEDFORD PARKING GARAGE
ESSEX
PHILLIPS SQ
NEW ENGLAND TELEPHONE & TELEGRAPH CO
SHOPPERS PARKING GARAGE
KNEELAND
ST JAMES RC CHURCH
UNIVERSITY MEDICAL & DENTAL SCHOOLS
BOSTON EDISON CO
PAGODA PARK
EXP ENTRANCE
EXP EXIT
SUMMER
HIGH
WASHINGTON
HARRISON
TYLER
HUDSON
UTICA
SOUTH
ATLANTIC
COLUMBIA
KINGSTON
BEACH
HAYWARD PL
MASON
STATE
BOSTON

LEGEND:

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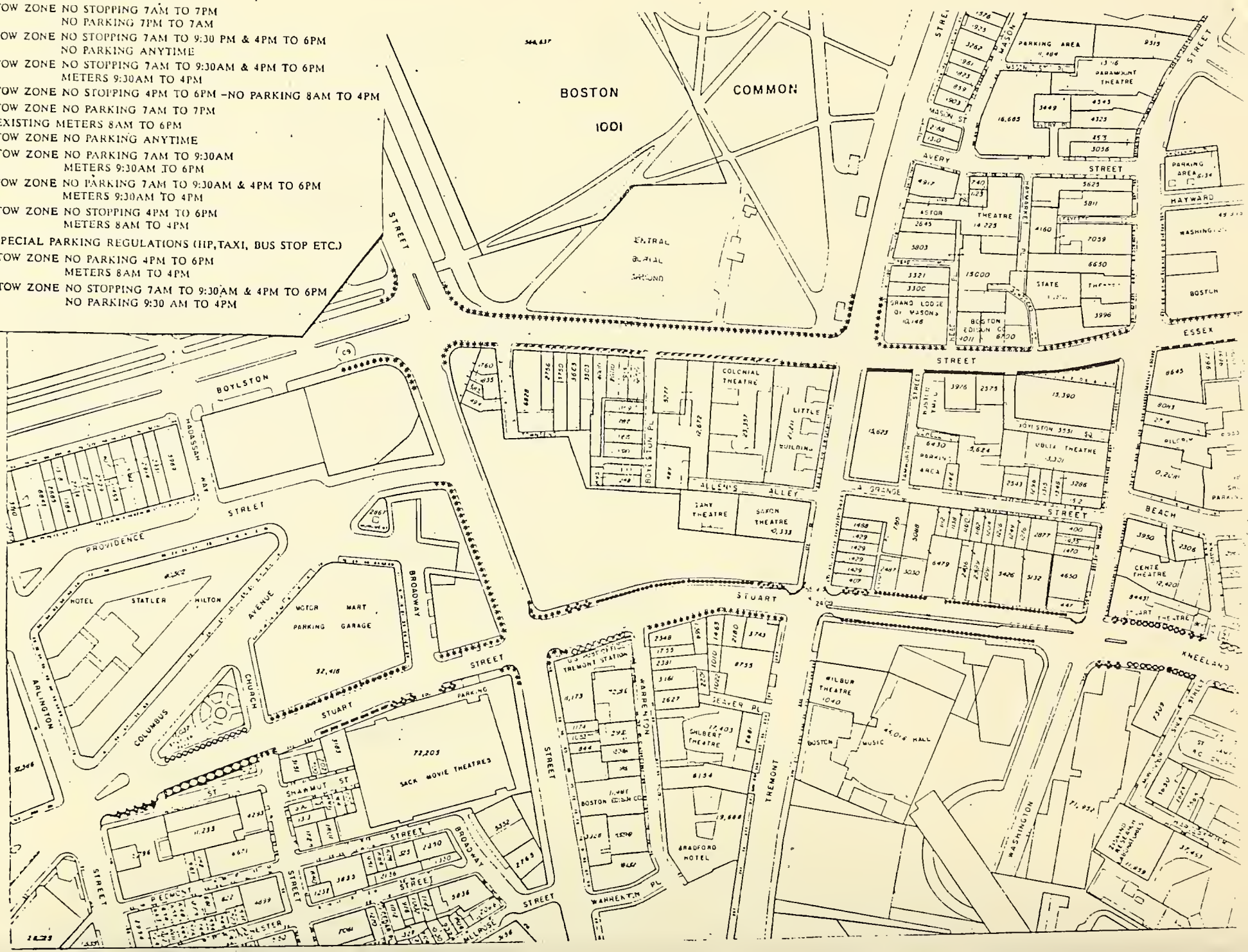
  NO PARKING 9:30 AM TO 4PM



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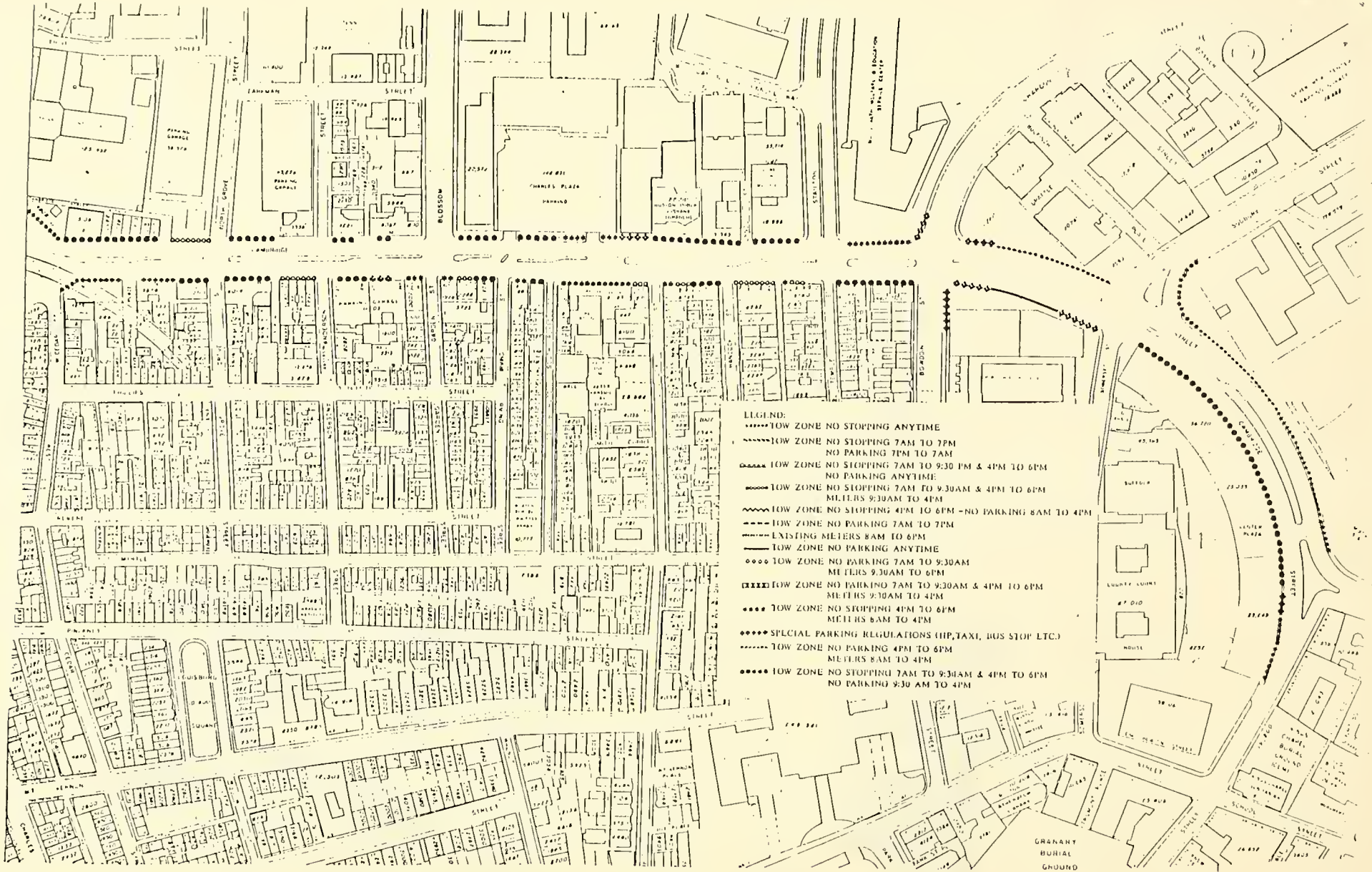

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